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From The Editor's Desk

Infants are among the world's most vulnerable objects. Perhaps it's for that reason we tend to respond so quickly to their cries, and can be made so joyous by their smiles. On a deeper level, we may sense that from their obvious neediness springs a message: help me so that some day I may help you.

In that spirit, SB has focused its first two articles this quarter on youth. Our lead article and companion editorial address the unremitting problem of early teenage pregnancy. In the United States we seem to pretend that it does not exist. We might have been forgiven for that attitude, once. After all, the problem of children having babies makes us confront a dismal failure in managing the procreative side of our society. But also it causes us to face, if we dare, the present-day realities of the failure in expectations for the infants. America is nominally the land of limitless opportunity for everyone. Or is it, if your mother was 14 and unwed when you were born?

In an accompanying editorial, SB's editors ask that the United States refocus its concerns on the needs of the child born to the unwed teenage mother. The problem, says the editorial, will only be deeply affected when local leadership tackles it with full community cooperation.

Would you be surprised to know how many children in the United States were estimated to live in single parent homes in 1984? These data and others presented in this issue describe the demography of the childhood population in this country. The statistical tale they tell has great importance for the 21st century.

Did you know that between 1969-71 and 1979-81 the increase in life expectancy for white men at age 65 represented about 40 percent of the total increase in expectation of life at birth (for white men) in the United States? It was a demographic milestone, mostly attributable to the rapid decrease in cardiovascular deaths in that time period. See SB's brief article describing the event and discussing its likely future implications.

Cancer deaths in the United States follow state and regional boundaries in tantalizing ways. Sometimes this complex of diseases called cancer hints at causes through its geography. Stomach and colon cancers among native Japanese and their migrants to Hawaii are recent examples. Though the topic "total cancer deaths" limits causal inferences, nevertheless it presents much food for thought in this SB.

You have our best wishes for the New Year, and for much good reading, as well.

Letters to the Editor

Reader Response to Costs of Coronary Bypass Surgery

Your series of articles on the costs of coronary bypass surgery provide a great deal of extremely important information. Unfortunately, some of the conclusions have been based upon erroneous or biased information.

For example, the conclusion by Mr. Briggs (Vol. 66, Apr-Jun 1985) that 13 percent of cases of coronary bypass surgery were needless must be based upon reports from the Coronary Artery Surgery Study, a clinical trial sponsored by the federal government, or from an old Veterans Administration study. Refutations of those studies have been published by others, and should be reviewed in depth before making sweeping conclusions such as this.

The issue of return to work is also unclear because the sample is too small to allow for conclusions. For example, perhaps Metropolitan has too many disincentives for returning to work. Or perhaps the type of surgery was not adequate. Where have the patients gone for their surgery? What is the average number of bypasses per patient? What were the mortality rates in this series? Answers to these questions would reveal a lot regarding the subsequent readmissions. Many studies have shown that the rehospitalizations and medical problems in surgical patients are much less frequent than they are in medically controlled patients. Why are the data from Metropolitan different?

While the statement that many other modalities are now available to treat patients is true, there is no convincing evidence, for example, that angioplasty or lasers are unassailable alternatives.

I would urge that before disseminating such information, a more balanced and unbiased approach be considered. □

Victor Parsonnet, M.D.
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Editor's Reply

Dr. Parsonnet has raised interesting points based on the April-June issue of SB, which included two articles and a guest editorial on the subject of coronary bypass surgery. In answer to his first one, SB is impressed that indications for bypass surgery have become more sharply defined in recent years, but that there has not been convincing statistical evidence that widespread application of any such clinical guidelines or standards has occurred. As a result, we stand by the 13 percent figure used to estimate the proportion of surgeries in which nonsurgical therapy would probably be just as effective.

On the subject of comparability of the Metropolitan Life Insurance Company's employees' return to work after bypass surgery, because the literature on employee populations is virtually nonexistent, SB was careful to avoid any suggestion that the Met Life experience was representative of that of other industries. For this reason, Dr. Parsonnet's questions about the kind of surgery, disincentives to return to work, the small sample size, all call for more publication of studies from other industries, which could provide more perspective on this multibillion dollar surgical enterprise.

SB wants to urge its readers to continue to follow the literature describing the treatment of coronary artery disease. We are not confident that either surgery or pharmacology holds much promise compared to the prospects of an arteriosclerotic preventive life-style, such as that advocated by Met Life and the American Heart Association. The editorial mentioned the alternatives to surgery, however, as a reminder that this complex story is not yet finished. □

Trends in Teenage Childbearing 1970-83

Patterns of childbearing in the United States have changed over the past 20 years. Today more women than ever before are choosing to have children later in life as they pursue educational opportunities and careers, and proportionately more women—particularly white women in their 30s—are bearing and opting to rear their children as single parents.[1-3] The patterns of parenthood for teenagers, i.e., females under 20 years of age, are also changing. The number of teenagers in the United States is declining as are the numbers of children born to them and the teen birth rates per 1,000 population. Nonetheless, teenage birth rates in the United States remain extremely high and are higher than those in all but a few of the developed countries of the

David Johnson

world.[1-4] Teenage childbearing stands out because it not only represents a serious social problem, but a major medical problem for both the young mother and her infant. It is estimated that 20 percent of all low birth weight babies born in the United States are born to teenagers and that the majority of these mothers receive inadequate prenatal care. In addition, babies born to teenagers are three times more often raised in a single parent household than are children born to women in their 20s.[4]

It is obvious that early childbearing is a complex issue and one with major economic, social and medical ramifications. Concern about the situation has been increasing, and solutions continue to be proposed and debated by religious, economic, education, social and medical professionals, government officials and the general public.

Teenage Childbearing, 1970-83

Based on the most recent natality data from the National Center for Health Statistics, the following report presents trends in and comparisons of births and birth rates* for all teenagers in the United States between 1970 and 1983 and for white and all other, or nonwhite, teens during this period. The nonwhite rates include teens of black and other racial origins with blacks accounting for over 90 percent of the total.[3]

Rates are reported for mothers in three age groups, 10-14, 15-17 and 18-19, as well as for teenagers 15-19 combined—this latter group comprises 98 percent of all teenage births in this country.

As shown in the accompanying table, live births to women under 20 years of age numbered 499,038 in the United States in 1983. Of these births, 2 percent were to girls under 15, 35 percent were to teenagers 15-17 and 63 percent were to 18 and 19 year olds. The total number of births to teenagers in 1983 was almost 5 percent lower than that reported for 1982; the proportion of teen births dropped from 18 percent of all live births in 1970 to 14 percent in 1983. During this 14-year period, birth rates among teenagers 10-14 have remained fairly stable, dropping from 1.2 to 1.1 per 1,000, while the decreases in rates among older teens have been greater, from 68.3 to 51.7. These decreases notwithstanding, the teenage birth rate in the United States continues to lead most developed *and* developing countries where the teenage birth rates are also decreasing.[4,5]

Declining Rates

Between 1970 and 1978, there was a slow but steady decline in the number and rate of births to all teenagers across the country. Slight increases in teenage birth rates were noted at the end of the 70s and between 1981-82, but in 1983, the rate for 15-19 year olds had dropped 2 percent to a level of 51.7 per 1,000. This rate was just slightly above that for 1978, which was the lowest rate recorded during the 14 years of review. In 1983 both the birth rate and the actual number of births to teenagers 15-19 was 24 percent lower than that registered in 1970.

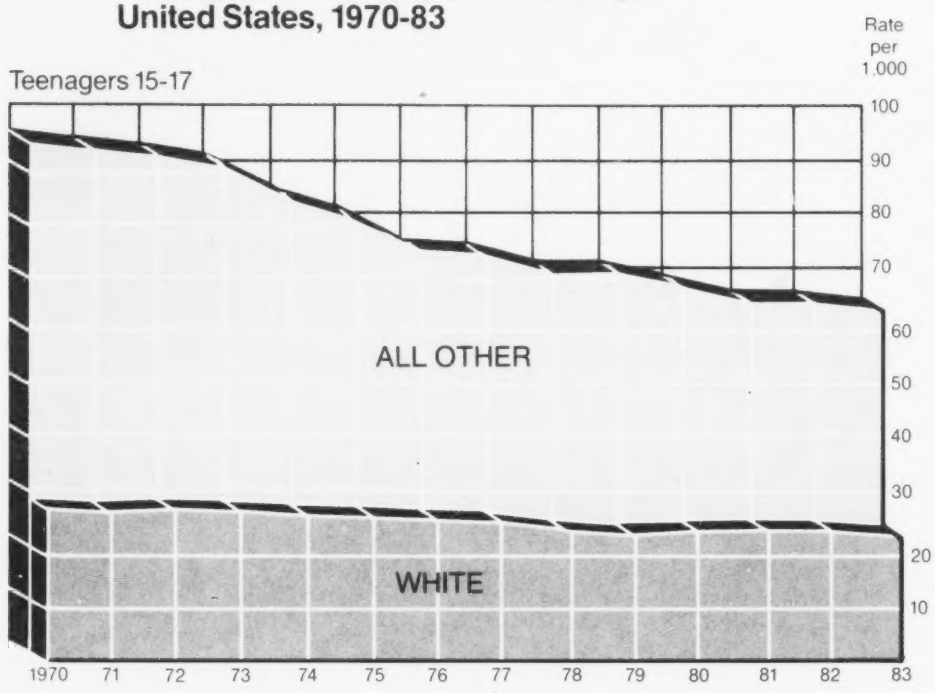
*Birth rates represent the number of live births to 1,000 women in the specified age groups.

Number of Live Births and Birth Rates to Women Under 20, by Race United States, 1970-83

Year	Number of Births		Birth Rate (1,000) Age of Mother			
	Total	Mothers Under 20	10-14	15-19	15-17	18-19
All Races						
1983	3,638,933	499,038	1.1	51.7	32.0	78.1
1982	3,680,537	523,531	1.1	52.9	32.4	80.7
1981	3,629,238	537,024	1.1	52.7	32.1	81.7
1980	3,612,258	562,330	1.1	53.0	32.5	82.1
1979	3,494,398	560,171	1.2	52.3	32.3	81.3
1978	3,333,279	554,179	1.2	51.5	32.2	79.8
1977	3,326,632	570,609	1.2	52.8	33.9	80.9
1976	3,167,788	570,672	1.2	52.8	34.1	80.5
1975	3,144,198	594,880	1.3	55.6	36.1	85.0
1974	3,159,958	607,978	1.2	57.5	37.3	88.7
1973	3,136,965	616,957	1.2	59.3	38.5	91.2
1972	3,258,411	628,362	1.2	61.7	39.0	96.9
1971	3,555,970	639,520	1.1	64.5	38.2	105.3
1970	3,731,386	656,460	1.2	68.3	38.8	114.7
White						
1983	2,904,250	342,183	.6	43.6	24.8	68.3
1982	2,942,054	362,101	.6	44.6	25.2	70.8
1981	2,908,669	373,983	.5	44.6	25.1	71.9
1980	2,898,732	392,229	.6	44.7	25.2	72.1
1979	2,808,420	388,209	.6	43.7	24.7	71.0
1978	2,681,116	384,572	.6	42.9	24.9	69.4
1977	2,691,070	396,854	.6	44.1	26.1	70.5
1976	2,567,614	398,329	.6	44.1	26.3	70.2
1975	2,551,996	415,202	.6	46.4	28.0	74.0
1974	2,575,792	425,205	.6	47.9	28.7	77.3
1973	2,551,030	429,740	.6	49.0	29.2	79.3
1972	2,655,558	438,559	.5	51.0	29.3	84.3
1971	2,919,746	450,856	.5	53.6	28.5	92.3
1970	3,091,264	467,928	.5	57.4	29.2	101.5
All Other						
1983	734,683	156,855	3.5	89.3	64.2	123.9
1982	738,483	161,430	3.6	91.5	65.6	128.2
1981	720,569	163,041	3.6	91.8	65.2	130.8
1980	713,526	170,101	3.9	94.6	68.3	133.2
1979	685,978	171,962	4.1	96.5	70.5	134.9
1978	652,163	169,607	4.0	96.0	70.4	134.4
1977	635,562	173,755	4.3	99.5	74.8	136.8
1976	600,174	172,343	4.3	99.9	75.5	137.2
1975	592,202	179,678	4.7	106.4	80.5	146.1
1974	584,166	182,773	4.6	111.3	84.9	153.1
1973	585,935	187,217	5.0	117.5	90.5	160.9
1972	602,853	189,803	4.7	123.8	93.8	173.3
1971	636,224	188,664	4.7	128.5	94.0	185.6
1970	640,122	188,532	4.8	133.4	95.2	195.4

Source: Reports from the National Center for Health Statistics, 1984 and 1985.

Figure A—Teenage Birth Rate by Race and Age United States, 1970-83



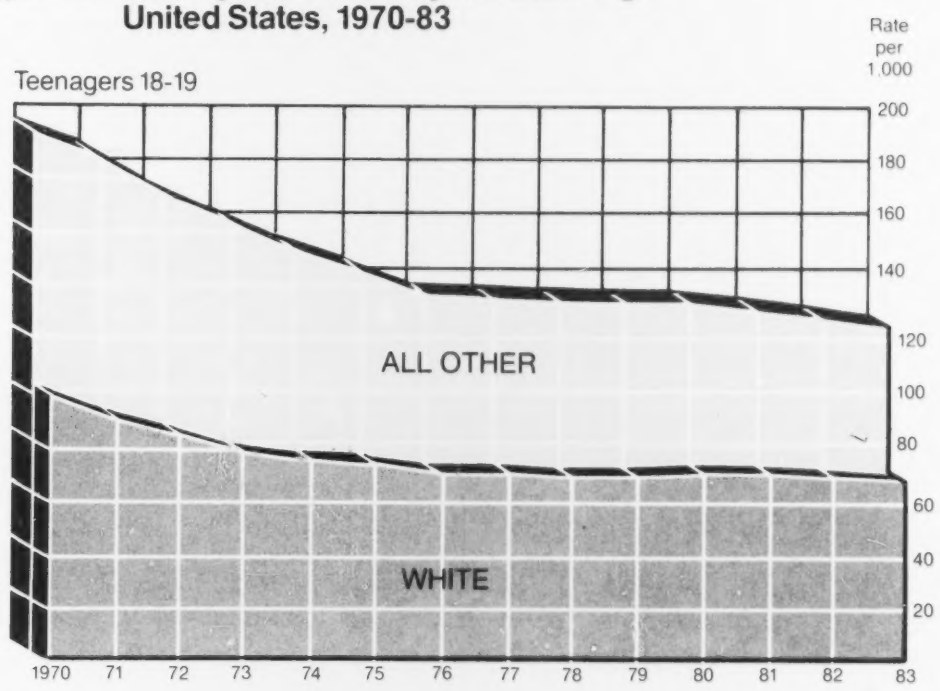
Source: See Table.

The largest decrease in rates over this 14-year period was evident among 18-19 year olds, where the rate dropped 32 percent. For teens 15-17, an 18 percent drop in birth rate was registered between 1970 and 1983. Among the 10-14 year olds, there was an 8 percent decrease—1.2 per 1,000 in 1970 to 1.1 in 1983. Similarly, the proportion of all births registered to teenagers decreased 22 percent during this time span.

Between 1970-83, birth rates among 18-19 year olds dropped 32 percent while dropping only 18 percent among 15-17 year olds

Between 1982 and 1983 the decline in teen birth rates continued to be more pronounced among 18-19 year olds than either of the other two age groups. In 1983 the birth rate to older teens was 78.1 per 1,000, down 3 percent from 1982. Among 15-17 year olds, the birth rate declined 1 percent during this period. The rate

Figure B—Teenage Birth Rate by Race and Age United States, 1970-83



Source: See Table.

of decrease has slowed somewhat from that experienced in the early part of the 1970s, but the decline in rates is still more exaggerated among the older teens.

Births Among Whites and Nonwhites

Considerable differences persist in the number of births and the birth rates between whites and teens of all other races in the United States (Figures A and B). Of all births to nonwhite women in 1983, 21 percent were to mothers under 20, whereas 12 percent of all white births were to teenagers. The largest differential in rates between the races was among the youngest teenagers. The birth rate for nonwhites 10-14 was almost six times that for whites in this age group in 1983, while the rate for nonwhite teenagers 15-19 was slightly more than twice that for whites, 89.3 and 43.6 per 1,000, respectively. The proportion of births to nonwhite teenagers steadily decreased with age, from 59 percent of all births to 10-14 year olds to 27 percent of births to 19 year olds.

Between 1970 and 1983, the birth rates fell more sharply for nonwhite teenagers in the older age groups than for their white counterparts. The difference in the declining rates was the greatest among the 15-17 year olds, where

the rate fell 33 percent for nonwhites and 15 percent for white teenagers in this age range. For teenagers 18-19, the nonwhite birth rate dropped 37 percent from 195.4 per 1,000 in 1970 to 123.9 in 1983; the rate for whites in this age group dropped 33 percent from 101.5 to 68.3 per 1,000 during this period. While the gap between the white and nonwhite teenage birth rates continues to decrease slowly, the rates remain unacceptably high for both groups of teens.

There are at least three compelling reasons not to take comfort from the apparent leveling-off of teen birth rates in the United States. First, there is no firm evidence that the reported decline can be attributed to any one educational or other intervention program which would suggest a continuation of this

After the Tears, Then What?

The tragedy of early teenage pregnancy and childbirth was once well summarized by Campbell* when he wrote that a 16-year-old unmarried mother has 90 percent of her life's script written for her.

In a country like the United States, so much of any individual's future depends on the ability to participate meaningfully in a high technology economy. Where then does that place the unwed, usually untrained teenage mother and her infant? SB wants more national attention given to facts like those presented in this issue.

How proud can the United States be about its federal, state, and local taxpayers' (individual and industrial) response to births by children for which the nation—and the children, themselves—pay such a high social and economic price? If we are to make progress against this complex problem, energetic assistance will be needed. Help must be wide-ranging from local school systems, expanded social service networks, vocational/educational programs and combined public-private financing initiatives, if the nation is not to act as a conspirator in the fulfillment of Campbell's pessimistic prophecy.

Let's also consider the needs of the infants, toddlers, preschoolers born to these girls. Sadly, these offspring have greater risk of illness and infant death than the average. They need special

*Campbell, Arthur A., "The Role of Family Planning in the Reduction of Poverty," *Journal of Marriage and the Family* 30(2):236-245, 1968.

trend over the long run. Second, American rates are much higher than the majority of those in other advanced societies. And third, the issue is so emotionally charged in the United States, the degree of social consensus necessary to deal with it effectively is not likely to emerge in the indefinite future, unless strong, new leadership appears. If our teen rates are to fall to the range of other western countries, public action will have to be taken to define and then move toward that minimum goal. Not until the problem is recognized socially can progress be made toward an acceptable resolution of the situation. □

1 Jones, E.F., Forrest, J.D., Goldman, N., Henshaw, S.K., Lincoln, R., Rosoff, J.I., Westoff, C.F., Wulf, D., "Teenage pregnancy in developed countries: Determinants and policy implications," *Family Planning Perspectives*, 17:53-63, 1985.

2 Westoff, C.F., Foster, A.D., "Teenage fertility in developed nations," *Family Planning Perspectives*, 15:105-117, 1983.

3 National Center for Health Statistics, *Advance Report of Final Natality Statistics, 1983*, *Monthly Vital Statistics Report*, Vol. 34, No. 6, Supp. DHHS Publication No. (PHS) 85-1120, Hyattsville, Md., Public Health Service, 1985.

4 Pittman, K., *Preventing Children Having Children*, Clearinghouse Paper No. 1, Washington, D.C., Children's Defense Fund, 1985.

5 Alan Guttmacher Institute, *U.S. and Cross-National Trends in Teenage Sexual and Fertility Behavior*, New York, N.Y., 1985.

social programs, if their childhood is to avoid the pernicious legacies of a severely deprived, frequently single-parent home.

Not that unwed teenagers, young though they may be, inherently lack competence. They may have abundant potential. But the burden of poverty and hopelessness, usually associated with limited education, is often simply too great. Marriage for these youngsters is generally not a realistic solution either. A teenage couple, lacking experience and marketable skills, also faced with parenting responsibilities, may be in a desperate situation. No nation that values its future, wants any part of its next generation to be raised in a destitute family environment.

What are the responsible actions of a society confronting such problems?

The answer inevitably must come from the involved communities. There, creative, caring service teams need to be formed with broad representation that includes parent(s), grandparents, school personnel, health workers and social workers. These groups could not only identify and help children at risk but assist young mothers and their infants toward self-sufficient lives.

Such teams, with solid community support, may counter the persistent forces that sustain early teenage pregnancy. Unless these forces are checked, they will dim the future's brightness for us all. □

The Editors

Profile of American Youth

The child population of the United States has been gradually declining since 1970. However, projections by the Bureau of the Census indicate that a reversal in the trend will shortly occur and the number of children under age 18 will begin to increase. The turnabout is attributed to the rising numbers of women of childbearing ages (although their total will peak around 1990) and to the increase in the total fertility rate.

In July 1984 there were 62,689,000 children under 18 years of age in the United States. This represents a decline of about 7 million since 1970 and 1 million since 1980. By 1990, however, it is expected that the number of persons under 18 years of age will rise to about 64⅕ million and reach 67⅞ million by the year 2000. The accompanying figure presents the population trend for the five subgroupings of these children. After the turn of the next century, the total number of children under age 18 is projected to decline.

Projections indicate that the number of children under age 18 will soon begin to increase.

Analysis of the selected age groups within the overall age bracket reveals diverse patterns. Thus, it is anticipated that the number of children under age 6 will peak around 1990. On the other hand, youngsters aged 6-13 will be more numerous in 2000 than at any time since 1970. Children aged 6-9 are projected to increase rapidly between 1984 and 1990, but in the succeeding decade the pace will diminish. Among youngsters 10-13 years of age, the outlook is for a continuation of the gradual decline in numbers since 1970 until 1990, at which time a sharp reversal will occur. The pattern projected for youngsters aged 10-13 is also expected to be repeated among teenagers 14-17 years of age. Their numbers have dropped sharply since 1980 and will continue to fall until around 1990; thereafter, their total will rise markedly.

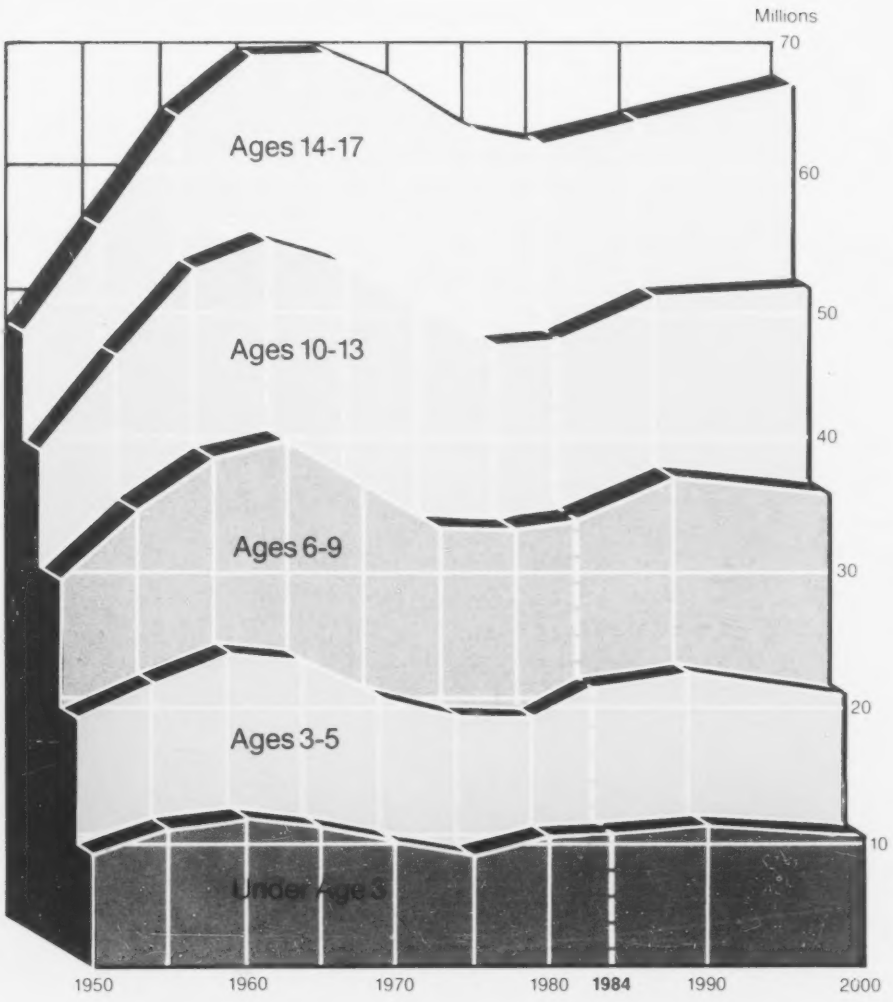
There is very little variation by age in the composition of the population under 18 either by sex or by race. Of all youths, boys constitute 51 percent of the total, while whites comprise 81 percent of the group. These proportions are virtually constant throughout the five age brackets. In 1984 males under 18 numbered 32.1 million and females 30.6 million.

Schooling

Completion of 12 years of education for all children has long been a national goal. In 1983 nearly 90 percent of the children aged 3-17 were enrolled in school. At ages 6-9 the proportion enrolled was near 97 percent, 99 percent at ages 10-13, and slightly lower (95 percent) for teenagers (14-17 years). Among children 3-5 years of age, 41 percent of those residing in metropolitan areas attended preschool compared with only 30 percent of the children who live in nonmetropolitan areas. The disparity in these percentages may be attributed to the greater accessibility and availability of preschools in the more populated areas.

Geographically, there is remarkable uniformity in the relative proportions of the child population enrolled in school. Overall, 34 per-

Number of Children Under Age 18
United States, 1950-84, Projected to 2000



Source: Various reports of the Bureau of the Census

Characteristics of Children Under Age 18
United States

Characteristics	Age Group					
	Under 18	Under 3	3-5	6-9	10-13	14-17
Numbers in 1,000's (July 1)						
1960	64,526	12,278	12,022	14,852	14,155	11,219
1970	69,762	10,204	10,719	16,162	16,753	15,924
1980	63,687	10,088	9,545	13,422	14,493	16,139
1984	62,689	10,726	10,494	12,948	13,814	14,707
1990	64,337	11,530	11,465	14,794	13,598	12,950
2000	67,391	10,480	10,792	15,113	15,624	15,382
Age distribution						
1960	100.0	19.0	18.6	23.0	22.0	17.4
1970	100.0	14.6	15.4	23.2	24.0	22.8
1980	100.0	15.8	15.0	21.1	22.8	25.3
1984	100.0	17.1	16.7	20.7	22.0	23.5
1990	100.0	17.9	17.8	23.0	21.2	20.1
2000	100.0	15.6	16.0	22.4	23.2	22.8
Percent change						
1960-1970	8.1	−16.9	−10.8	8.8	18.4	41.9
1970-1980	−8.7	−1.1	−11.0	−17.0	−13.5	1.4
1980-1984	−1.6	6.3	9.9	−3.5	−4.7	−8.9
1984-1990	2.6	7.5	9.3	14.3	−1.6	−11.9
1990-2000	4.7	−9.1	−5.9	2.2	14.9	18.8
Sex-percent (1984)	100.0	100.0	100.0	100.0	100.0	100.0
Male	51.2	51.2	51.1	51.2	51.2	51.2
Female	48.8	48.8	48.9	48.8	48.8	48.8
Race-percent (1984)	100.0	100.0	100.0	100.0	100.0	100.0
White	81.4	81.4	81.1	81.3	81.0	82.0
All other	18.6	18.6	18.9	18.7	19.0	18.0
School enrollment—percent (1983)						
Metropolitan area	100.0*	†	100.0‡	100.0‡	100.0	100.0
Enrolled	90.0	†	41.3	97.7	99.6	95.5
Not enrolled	10.0	†	58.7	2.3	.4	4.5
Nonmetropolitan area	100.0*	†	100.0‡	100.0‡	100.0	100.0
Enrolled	87.5	†	30.4	97.1	99.1	94.0
Not enrolled	12.5	†	69.6	2.9	.9	6.0
Region-percent	100.0*	†	100.0‡	100.0‡	100.0	100.0
Northeast	20.4	†	20.5	20.4	19.5	21.7
Midwest	25.8	†	24.3	25.9	25.4	26.6
South	34.1	†	33.6	34.0	34.7	33.3
West	19.7	†	21.6	19.7	20.4	18.4
Living arrangement—percent (1984)						
White	100.0	100.0	100.0	100.0	100.0	100.0
In families	99.9	99.9	99.9	99.9	99.9	99.9
Both parents	81.0	85.1	82.5	81.6	79.4	77.3
Mother only	15.1	12.0	14.4	15.2	16.4	16.6
Father only	2.1	2.0	1.8	1.8	2.2	2.8
Neither parent	1.7	.8	1.2	1.3	1.9	3.2
Not in families	.1	.1	.1	.1	.1	.1
All other	100.0	100.0	100.0	100.0	100.0	100.0
In families	99.8	99.8	99.9	99.8	99.7	99.9
Both parents	48.1	45.9	46.6	49.8	50.1	46.8
Mother only	43.4	48.6	46.9	41.7	40.9	40.4
Father only	2.8	2.6	1.9	2.9	2.3	4.5
Neither parent	5.5	2.7	4.5	5.4	6.4	8.2
Not in families	.2	.2	.1	.2	.3	.1

*Excludes ages under 3.
†Not applicable.
‡Relates to ages 3-4 and 5-9, respectively.
Source: Various reports by the Bureau of the Census.

cent of the children under 18 attending classes reside in the South while around 26 percent live in the Midwest. Around 20 percent of the child population going to school dwell in the Northeast region of the country and a like number in the West. When each of the five age groups is examined, it is apparent that there are only minor variations in the percentages.

The vast majority of youngsters still reside with both their parents in a family situation. However, the proportion of children in this living arrangement is diminishing rapidly. In particular, the recent trend toward more divorces and separations has spurred this change in residence status. For example, in 1970 almost 9 out of 10 American children lived with their mother and father, whereas in 1984 the proportion dropped to three-fourths. Along ethnic lines, the 1984 data revealed that four-fifths of white children resided with both parents, but less than half of the children of all other races lived in a similar situation.

About 20 percent of children under 18, not living with both parents, resided with their mothers (almost double the relative number in 1970). Less than 5 percent of the youngsters reside with either their father or in some other form of arrangement.

The single parent in a family that has a child under age 18 is, 40 percent of the time, a divorced individual. Also noteworthy has been the sharp rise in the proportion of single parents who never married: from 7 percent in 1970 to 25 percent in 1984.

Substantial racial differences were found in the marital status of the single parent raising a child under 18. Over half of the white parents in this situation were divorced and another one-eighth were never married; comparable proportions for persons of all other races were one-fourth and over two-fifths, respectively. The bottom two tiers of the table present details of the living arrangements of white and nonwhite children under 18 by age. □

Capsule Briefs

are timely literature selections with broad reader interest

Shrink From Responsibility?

Those following the medical malpractice problems of the United States have a new saga to relate. An appeals court reversed the trial court's decision and held that a psychiatrist was responsible for the negative consequences of his patient's driving behavior if the patient's condition was not properly treated. In this case —Duval vs. Goldin 362 N.W.2d 275 (Mich. Ct. of App., Dec., 3, 1984)--the patient had epilepsy, and the court found that the psychiatrist had not taken into consideration the risk to other motorists when he failed to treat his patient. (*American Medical News*, p. 17, September 27 1985.)□

Dinosaur Extinction Theory Fuels Nuclear Winter Debate

Clay samples from three Cretaceous period geologic excavations have uncovered traces of ash that have been interpreted as evidence that a worldwide layer of soot existed at the time of the massive extinction of dinosaurs. The origin of the soot may have been wildfires resulting from a gigantic meteor's striking the earth in the northern hemisphere. If so, the extinction process may have simulated the conditions predicted by computer that could arise from multiple nuclear explosions ("Nuclear Winter"). Might the dinosaurs' extinction have pointed the way to reducing the risk of our extinction? Ironic, if true. (Wolback, W.S., et al, *Science* 23 167-170, October 1985.)□

Trials of Hypertension Therapy

The clinical trial (CT), with its use of randomized allocation of persons into treatment and placebo (or, control) groups, is intended primarily to answer puzzling therapy questions. Sometimes, however, biologic processes are reluctant to yield information, despite our increasing scientific understanding. Take hypertension, for example. The recent finis of four large CTs failed to resolve effectively some of the most burning questions about the benefits of treatment of the mild form (persistent diastolic levels 100mmHg), who and how to treat, and whether diuretics or Beta blockers are the preferable choice. (Editorial, *Lancet* 8456 645-647, 1985.)□

Aspirin: Major Risk Factor for Reye's Syndrome?

Reye's syndrome can be a mild to permanently brain damaging illness with accompanying liver injury and even can cause death in children and infants. It usually occurs after an upper respiratory infection or chickenpox. Salicylates have been suspected as the cause. This case-control study, a pilot for a nationwide investigation, found an association between salicylate exposure in children and infants and condition. If confirmed by the larger study, it should help prevent future cases. (Hurwitz, E.S., et al, *New England Journal of Medicine* 313(14):849-57, 1985.)□

Another Pet Idea Discarded

It has been suggested that pet ownership among the elderly may be associated with better mental health. To test this interesting hypothesis, 48 suicides were studied in a case-control design (two types of controls) in Washington County, Md. Only 7 of 48 were over age 65, however. The deaths occurred in the years 1975-83. All had completed a 1975 questionnaire that included an item about pet ownership. The authors concluded, "No material association between pet ownership and suicide was observed." (Helsing, K.J. and Monk, M., *American Journal of Public Health* 75:1223-1224, 1985.)

Good News for Type 'A' Personalities

If rushing around to meet deadlines is your cup of tea, and you're tired of your friends telling you to slow down because it may give you a heart attack, then read on. A clinical trial of coronary heart disease prevention (Multiple Risk Factor Intervention) from 1973-82 involved 12,772 high-risk men who were analyzed for Type 'A' personality (high drive, time urgency-oriented). Investigators found, in contrast to other studies (with many fewer subjects), that Type 'A's were not at higher risk. The authors conclude that the "results raise questions regarding the robustness of the Type 'A' hypothesis in its present form." (Shekelle, R.B., et al., *American Journal of Epidemiology* 122:559-70, 1985.)

Finding Happiness in Japan

Are industries in Japan better able to provide a mentally healthier work environment than their American counterparts? While a full answer might be difficult to obtain, the New York Business Group on Health invited a panel of Japanese businessmen and researchers to present their assessment to a full-day conference in New York. Some results were: some companies do better than others regarding mental health programs; upper level employees have more mental health awareness; larger, more successful companies have higher mental health ratings; and introduction of technology per se does not cause poorer company ratings. It all seems familiar. (*New York Business Group on Health Newsletter* 5(6):1, 4,11, 1985.)

Recent International Changes in Longevity

During the 1970s expectation of life at birth in the United States increased significantly. This is in marked contrast to the stagnation in life expectancy enhancement that occurred during the 1960s. Similar experiences were reported in other countries of low mortality, although the increments in life expectancy between 1970 and 1980 were generally smaller. As a result of the favorable trend in the United States, international longevity differences have, for the most part, narrowed.

In the United States, life expectancy at birth increased to 73.9 in 1979-81 from 70.7 in 1969-71, or by 3.2 years. During the prior 10-year period the gain in longevity was only 0.8 years. Table 1 shows selected values from the general population 1979-81 United States Life Table by age, race and sex. This table was prepared by the National Center for Health Statistics from deaths during the three-year period 1979-1981 and the 1980 Census of Population. Inasmuch as census data is a fundamental component in the construction of the table and is compiled every 10 years, the 1979-81 United States Life Table will be used as a standard until the next decennial enumeration is prepared.

Perusal of the expectation of life values in the table reveals that persons aged 25 can expect, on the average, 50.8 years of additional life while those aged 45 can look forward to another 32.3 years and those 65 years of age, 16.5 years. At the advanced ages, persons who attain age 85 can anticipate another 6.0 years, and 2.7 years remain at age 100.

Life tables are constructed from mortality rates and these are shown in the right half of Table 1. A graphic presentation of the 1979-81 mortality curve for the total populaton is shown in the figure on Page 18. As is evident, mortality at birth is relatively high but decreases rapidly until age 11. A marked reversal in the curve then occurs, and before leveling off, reaches a peak at age 23. This rapid acceleration in the mortality rates in the late teens and early 20s is attributed to deaths from violent causes—mainly motor vehicle accidents. After the late 20s, there is a slow resumption in the upward trend of the curve, which then accelerates with advance in age.

Significant Improvements in American Longevity

Longevity of American men and women is frequently compared with life expectancy of persons in other countries of low mortality and, unfortunately, the past results were not very favorable. However, analysis of recent data indicates impressive gains have been made. In the United States, expectation of life at birth for newborn girls during 1979-81—77.6 years—was exceeded by that in 11 other nations. Among infant boys, average future lifetime in the United States—70.1 years—ranked 15th. The current standings for both boys and girls are an improvement of a few places from the relative positions a decade earlier.

Not only has the relative ranking of United States life expectancy improved, but the gap between the nations with the best longevity record and United States experience has narrowed considerably. In the period around 1980 expectation of life at birth for boys was highest in Iceland—namely 73.9 years. This value was 3.8 years greater than the comparable figure in the United States. A decade earlier, Sweden experienced the most favorable expectancy for boys (71.7 years) and it exceeded the longevity figure in the United States by 4.7 years.

Currently, the second highest figure for male expectation of life at birth was reported

Table 1—Expectation of Life and Mortality Rates by Age and Sex United States, 1979-81

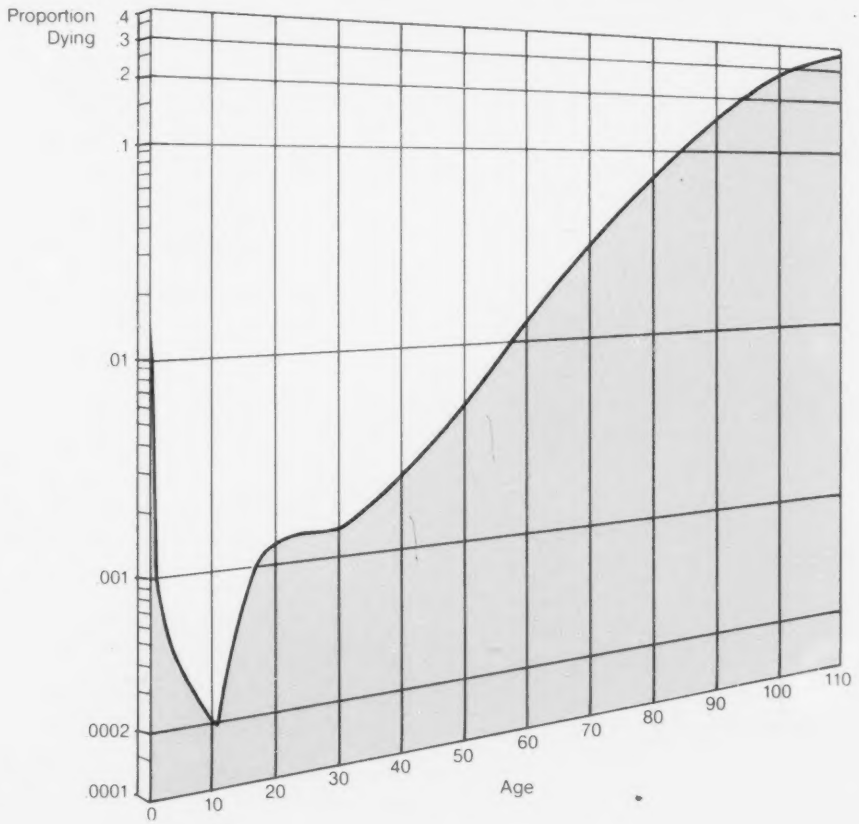
Age	Expectation of Life in Years					Mortality Rate per 1,000				
	Total Persons	White		All Other		Total Persons	White		All Other	
		Male	Female	Male	Female		Male	Female	Male	Female
0	73.9	70.8	78.2	65.6	74.0	12.6	12.3	9.7	20.6	17.4
1	73.8	70.7	78.0	66.0	74.3	.9	.9	.8	1.4	1.2
2	72.9	69.8	77.0	65.1	73.4	.7	.7	.5	1.0	.8
3	71.9	68.8	76.1	64.2	72.5	.5	.5	.4	.8	.6
4	71.0	67.8	75.1	63.2	71.5	.4	.4	.3	.7	.5
5	70.0	66.9	74.1	62.3	70.5	.4	.4	.3	.6	.4
6	69.0	65.9	73.2	61.3	69.6	.3	.4	.3	.5	.3
7	68.0	64.9	72.2	60.3	68.6	.3	.3	.2	.5	.3
8	67.1	63.9	71.2	59.4	67.6	.3	.3	.2	.4	.3
9	66.1	63.0	70.2	58.4	66.6	.2	.2	.2	.3	.2
10	65.1	62.0	69.2	57.4	65.6	.2	.2	.2	.3	.2
11	64.1	61.0	68.2	56.4	64.7	.2	.2	.2	.3	.2
12	63.1	60.0	67.2	55.4	63.7	.3	.3	.2	.4	.3
13	62.1	59.0	66.2	54.5	62.7	.4	.5	.3	.6	.3
14	61.2	58.0	65.3	53.5	61.7	.5	.7	.3	.8	.4
15	60.2	57.1	64.3	52.5	60.7	.7	1.0	.4	1.0	.4
16	59.2	56.1	63.3	51.6	59.8	.8	1.2	.5	1.2	.5
17	58.3	55.2	62.3	50.6	58.8	1.0	1.4	.5	1.4	.6
18	57.3	54.3	61.4	49.7	57.8	1.1	1.5	.5	1.6	.6
19	56.4	53.4	60.4	48.8	56.8	1.1	1.6	.6	1.9	.7
20	55.5	52.4	59.4	47.9	55.9	1.2	1.8	.6	2.1	.7
21	54.5	51.5	58.5	47.0	54.9	1.3	1.9	.6	2.4	.8
22	53.6	50.6	57.5	46.1	54.0	1.3	1.9	.6	2.6	.8
23	52.7	49.7	56.5	45.2	53.0	1.3	1.9	.5	2.8	.9
24	51.7	48.8	55.6	44.3	52.1	1.3	1.9	.6	2.9	1.0
25	50.8	47.9	54.6	43.5	51.1	1.3	1.8	.6	3.0	1.0
26	49.9	47.0	53.6	42.6	50.2	1.3	1.8	.6	3.1	1.1
27	48.9	46.1	52.7	41.7	49.2	1.3	1.7	.6	3.3	1.2
28	48.0	45.2	51.7	40.9	48.3	1.3	1.7	.6	3.4	1.2
29	47.1	44.2	50.7	40.0	47.3	1.3	1.7	.6	3.5	1.3
30	46.1	43.3	49.8	39.1	46.4	1.3	1.7	.7	3.6	1.3
31	45.2	42.4	48.8	38.3	45.4	1.3	1.7	.7	3.7	1.4
32	44.2	41.5	47.8	37.4	44.5	1.4	1.7	.7	3.8	1.5
33	43.3	40.5	46.9	36.5	43.6	1.4	1.7	.8	4.0	1.6
34	42.4	39.6	45.9	35.7	42.6	1.5	1.8	.8	4.1	1.7
35	41.4	38.7	44.9	34.8	41.7	1.6	1.8	.9	4.4	1.9
36	40.5	37.7	44.0	34.0	40.8	1.7	2.0	1.0	4.6	2.1
37	39.6	36.8	43.0	33.1	39.9	1.8	2.1	1.1	4.9	2.2
38	38.6	35.9	42.1	32.3	39.0	2.0	2.2	1.2	5.2	2.5
39	37.7	35.0	41.1	31.5	38.1	2.1	2.4	1.3	5.6	2.7
40	36.8	34.0	40.2	30.6	37.2	2.3	2.6	1.4	6.0	2.9
41	35.9	33.1	39.2	29.8	36.3	2.5	2.9	1.6	6.4	3.2
42	35.0	32.2	38.3	29.0	35.4	2.8	3.2	1.7	6.9	3.5
43	34.1	31.3	37.3	28.2	34.5	3.1	3.5	1.9	7.4	3.8
44	33.2	30.4	36.4	27.4	33.6	3.4	3.8	2.1	8.1	4.1
45	32.3	29.5	35.5	26.6	32.8	3.7	4.2	2.3	8.8	4.5
46	31.4	28.7	34.6	25.9	31.9	4.0	4.6	2.5	9.5	4.9
47	30.5	27.8	33.7	25.1	31.1	4.4	5.1	2.8	10.4	5.4
48	29.6	26.9	32.8	24.4	30.2	4.9	5.7	3.1	11.3	5.9
49	28.8	26.1	31.9	23.6	29.4	5.4	6.4	3.4	12.3	6.4
50	27.9	25.3	31.0	22.9	28.6	5.9	7.1	3.8	13.2	6.9
51	27.1	24.4	30.1	22.2	27.8	6.4	7.8	4.1	14.2	7.4
52	26.3	23.6	29.2	21.5	27.0	7.0	8.5	4.5	15.3	8.0
53	25.5	22.8	28.3	20.9	26.2	7.6	9.3	4.9	16.5	8.6
54	24.6	22.0	27.5	20.2	25.4	8.3	10.3	5.3	17.7	9.3
55	23.9	21.3	26.6	19.6	24.7	9.0	11.3	5.8	19.1	10.0
56	23.1	20.5	25.8	18.9	23.9	9.8	12.3	6.3	20.4	10.8
57	22.3	19.7	24.9	18.3	23.2	10.6	13.4	6.8	21.7	11.6
58	21.5	19.0	24.1	17.7	22.4	11.5	14.6	7.4	23.1	12.5
59	20.8	18.3	23.3	17.1	21.7	12.5	16.1	8.1	24.6	13.4
60	20.0	17.6	22.5	16.5	21.0	13.7	17.6	8.9	26.2	14.4
61	19.3	16.9	21.6	16.0	20.3	14.9	19.3	9.8	27.9	15.5
62	18.6	16.2	20.9	15.4	19.6	16.3	21.2	10.7	29.8	16.7
63	17.9	15.5	20.1	14.9	18.9	17.7	23.2	11.6	31.7	17.9
64	17.2	14.9	19.3	14.3	18.3	19.1	25.2	12.6	33.6	19.0
65	16.5	14.3	18.5	13.8	17.6	20.6	27.4	13.6	35.5	20.1
66	15.9	13.6	17.8	13.3	17.0	22.2	29.7	14.7	37.3	21.2
67	15.2	13.1	17.1	12.8	16.3	23.9	32.2	16.0	39.4	22.5
68	14.6	12.5	16.3	12.3	15.7	25.9	35.0	17.4	41.7	24.2
69	13.9	11.9	15.6	11.8	15.1	28.1	38.1	19.1	44.5	26.3
70	13.3	11.4	14.9	11.4	14.4	30.5	41.5	20.9	47.5	28.8
71	12.7	10.8	14.2	10.9	13.9	33.2	45.2	22.9	50.8	31.4
72	12.1	10.3	13.5	10.5	13.3	35.9	49.0	25.2	54.2	34.1
73	11.6	9.8	12.9	10.0	12.7	38.8	53.0	27.6	57.4	36.6
74	11.0	9.3	12.2	9.6	12.2	41.8	57.0	30.3	60.5	38.9
75	10.5	8.9	11.6	9.2	11.7	45.1	61.5	33.2	63.6	41.1
80	8.0	6.8	8.7	7.2	9.2	68.8	91.0	55.9	87.7	59.9
85	6.0	5.1	6.3	5.7	7.2	107.3	135.1	94.6	124.1	86.9
90	4.4	3.8	4.6	4.5	5.5	158.7	190.6	148.3	166.2	125.1
95	3.3	2.9	3.4	3.6	4.3	229.8	266.2	222.3	225.5	182.8
100	2.7	2.4	2.7	3.2	3.7	291.2	327.8	290.9	256.6	222.8

Source: National Center for Health Statistics.

by Japan (73.7), while Sweden also recorded a value of over 73 years. Next in rank order was Switzerland, Israel, the Netherlands, Hong Kong and Norway—all with longevity between 72 and 73 years. Canada and Australia round out the remaining countries in the top 10.

Among infant girls, the disparity between the nation with the most favorable longevity experience and the United States was much smaller than for boys. Presently, Switzerland recorded the highest life expectancy at birth for newborn girls—79.6 years. In the United States average future lifetime was less than two years lower. Ten years earlier the gap was nearly three years, when life expectancy was 74.6 years in the United States and was 77.5 years in Iceland. At the beginning of this decade, Iceland, the Netherlands, Norway, Japan, Sweden

Chances of Dying, Total Population United States, 1979-81



and Canada all reported female average future lifetime around 79 years. Expectation of life was just one year less in France, Australia and Hong Kong.

Life expectancy gains at birth in the United States far outpaced those in most other countries of low mortality. Analysis of life tables for the 20 countries in this study reveals that for males in the United States the increase during

Life expectancy gains at birth in the United States far outpaced those in most other countries of low mortality.

Table 2—Expectation of Life by Sex and Age Selected Countries With Low Mortality

Country/Year	Male				Female			
	0	25	45	65	0	25	45	65
North America								
Canada (1980-82)	71.87	48.78	30.16	14.56	78.94	55.17	35.99	18.80
United States (1979-81)	70.11	47.37	29.22	14.21	77.62	54.16	35.17	18.44
Europe								
Denmark (1980-81)	71.10	47.70	29.10	13.60	77.20	53.30	34.30	17.60
Finland (1981)	69.53	45.89	27.58	12.83	77.77	53.56	34.26	16.58
France (1981)	70.41	47.34	29.00	13.98	78.47	54.76	35.68	18.17
Germany, F.R. (1979-81)	69.93	47.01	28.49	13.02	76.65	53.11	33.98	16.70
Iceland (1981-82)	73.91	50.34	31.50	15.41	79.45	55.35	36.13	18.48
Netherlands (1981)	72.70	49.20	30.10	14.00	79.30	55.40	36.00	18.50
Norway (1980-81)	72.49	49.06	30.21	14.28	79.23	55.21	35.82	18.10
Sweden (1981)	73.05	49.28	30.52	14.33	79.08	54.96	35.64	17.99
Switzerland (1981-82)	72.70	49.40	30.60	14.60	79.60	55.70	36.40	18.70
United Kingdom								
England & Wales (1980-82)	71.09	47.75	28.73	13.08	77.11	53.33	34.06	17.18
Northern Ireland (1979-81)	69.52	46.44	27.84	12.08	75.12	51.64	32.47	15.85
Scotland (1980-82)	68.98	45.73	27.02	12.15	75.19	51.41	32.27	15.93
Other Areas								
Australia (1981)	71.38	48.29	29.56	13.87	78.42	54.67	35.39	18.07
Hong Kong (1982)	72.69	49.09	30.31	14.76	78.28	54.53	35.33	18.07
Israel (1981)	72.70	49.73	30.77	14.62	75.91	52.35	33.20	16.04
Japan (1981)	73.79	50.17	31.28	14.85	79.13	55.10	35.80	17.93
New Zealand (1982)	70.67	47.79	29.15	13.53	76.86	53.35	34.25	17.54
Singapore (1980)	68.70	45.50	26.80	12.20	74.00	50.60	31.50	15.10

Source: United Nations Demographic Yearbook and National Center for Health Statistics

the period under review was 3.1 years—considerably larger than that of 14 foreign nations. Among females, the gain in life expectancy in the United States during the last 10 years was almost three years. The increases in Singapore, Finland, Japan and Switzerland significantly exceeded the gain in our country.

International variations in expectation of life at age 65 are not nearly as pronounced as those at birth. The differences at age 65 between the experience in the United States and the best foreign longevity record was just 1.2 years for men and only 0.4 years for women. Moreover, compared to the standing for newborns, the United States international ranking for aged persons is much higher. Around 1980 the average remaining lifetime at age 65 for United States men ranked ninth internationally, while that for women placed fifth. Iceland reported the best experience for men, with an expectancy of 15.4 years, and Canada recorded the highest value for women—18.8

Implications of the Growing Number of Senior Citizens

In the April-June 1984 issue of the *Statistical Bulletin*, we called attention to the rapidly growing number of persons aged 65 and over in the United States. Updated 1984 figures revealed this group was almost 12 percent of the population, and is projected to increase to 13 percent in 2000, and jump to 22 percent in 2050. Also noted in the earlier article was the rapid expansion of the population aged 85 and over, whether compared to its percentage of the population aged 65 and over, or its relationship to the total population. These phenomena were not surprising because demographically they reflected the projected increase in the senior population. However, little attention was directed to the fact that the recent gains in longevity at the older ages have become a significant proportion of the increase in expectation of life at birth—especially among men (see table).

For 70 years (until 1970), the increment in life expectancy for white men aged 65 represented less than 20 percent of the gain for newborns. Yet, during the 1969-71 to 1979-81 period, the growth in white men's expectancy at age 65 accounted for 40 percent of the gain in longevity at birth. Among white women, the large increases began in the 1940s. In the two immediate decades since 1939-41 the gain in expectation at age 65 for white women rose from 30 to 40 percent of the increase in longevity at birth. Although the relative proportion was as much as four-fifths during the 1960s, in the 1970s the gain in longevity at age 65 was still three-fifths of the increase among infants. Since 1980 there has been no abatement in the relationship.

years. Table 2 presents expectation of life values by selected ages and sex for the countries under review.

The preceding analysis was a comparison of life expectancy in countries with low mortality with that for the United States as a whole. However, in most instances, the composition of the population of foreign countries is homogeneous, whereas the population of the United States can differ widely geographically by variety of ethnic and cultural stock. Thus, there is justification for making comparisons between selected areas of the United States and individual international countries. Based on 1969-71 State Life Tables, the latest available, longevity in selected states is higher or compares very favorably with most of the countries listed in Table 2. The National Center for Health Statistics is now preparing State Life Tables for the 1979-81 period, and, when these tables are released, future *Statistical Bulletin* articles will present the findings. □

The consequences of the increasing life expectancy among the elderly will certainly translate into many opportunities as well as potential crises for the provision of social services and for economic planners. The private and public sectors of society must begin to reallocate priorities, in order to meet the many real future needs of this burgeoning and healthier age group, including: special housing, additional medical and nursing facilities, family services, home care, hospice care, and complex financial planning. It may be that much of our present political/economic system will be modified by the process of accommodating the enhanced longevity of elders. Inevitably, private sector retirement programs (including pension plans) as well as the Social Security system will be significantly affected. □

Expectation of Life, White Population by Sex, United States, 1959-61 to 1984

Period	Expectation of Life at Birth		Gain in Life Expectancy (From Preceding Period): Age 65 as Percent of Birth	
	Male	Female	Male	Female
1959-61	67.6	74.2	18	41
1969-71	67.9	75.5	13	81
1979-81	70.8	78.2	43	59
1984 (Prov.)	71.8	78.8	31	45

Variations in Mortality from Cancer

Cancer continues to rank No. 2 among the leading causes of death in the United States, and in 1985 it accounted for an estimated 462,000 deaths among Americans.[1] Malignant neoplasms are responsible for approximately one-fifth of all deaths in this country and, as this report shows, mortality rates from these diseases vary markedly by age, sex and geographic area of the country.

Cancer mortality data among men and women are presented in Tables 1 and 2, respectively, for the period 1979-81. The death rates include deaths attributed to all forms of malignant neoplasms (International Classification of Diseases, Ninth Revision, Codes 140 to 208). Death rates per 100,000 population are shown by state and geographic division in four 10-year age groups between 35 and 74 and for ages 35-74 combined. The combined rates have been adjusted for differences in the age distribution in the various states.

Regional Variations

For the period 1979-81, the age-adjusted cancer death rate for men 35-74 was 318 per 100,000 population. Two-thirds of the geographic areas of the country registered mortality rates in excess of this national total; in two of these regions, i.e., East South Central and South Atlantic, the rates were 10 and 6 percent, respectively, above the national average. (Figure page 26). The Middle Atlantic, East North Central, West South Central and New England regions also reported total cancer death rates for males that were above the average.

The lowest mortality rate for men 35-74 was 20 percent below the national rate and was registered in the Mountain region. Rates in both the Pacific and the West North Central areas of the country were also below the average—289 and 292 deaths per 100,000, respectively.

The age-adjusted cancer death rate among females 35-74 was 221 per 100,000, a rate 30 percent lower than that reported for males. The regional distribution and extent of variation in these rates differed considerably between the sexes. (Figure page 26) The highest total cancer death rate for females was recorded in the Middle Atlantic area—8 percent above the national average. Three other regions of the country—the New England, East North Central and Pacific areas—recorded rates ranging from 6 to 2 percent above the average. As with males, female cancer mortality was the lowest in the Mountain states, where the rate was 192 per 100,000, or 13 percent below the total.

Variation by States, District of Columbia

Among males and females 35-74, the highest cancer mortality was registered in the District of Columbia—515 cancer deaths per 100,000 for men and 288 for women. Respectively, these rates were 62 and 30 percent above those for the United States. The mortality rates were the lowest for both sexes in Utah, 205 and 166 per 100,000. Among males at these ages, six states—Delaware, Alabama, South Carolina, Kentucky, Maryland and Louisiana—followed the District with rates at least 10 percent higher than the national average. Including Utah, 19 states reported male cancer mortality rates below 300. Cancer mortality among women

Table 1—Mortality From Malignant Neoplasms Among Men United States, 1979-81

Area	Death Rate per 100,000				
	Ages 35-74*	Ages 35-44	Ages 45-54	Ages 55-64	Ages 65-74
United States	317.7	43.6	188.6	517.5	1,088.4
New England	319.7	43.2	185.6	505.7	1,132.6
Maine	336.4	†	194.2	547.4	1,169.4
New Hampshire	315.5	†	164.7	540.5	1,116.7
Vermont	306.1	†	175.5	458.3	1,118.5
Massachusetts	321.1	42.5	188.7	503.8	1,141.6
Rhode Island	338.3	†	215.1	527.7	1,131.7
Connecticut	309.3	41.8	176.0	486.4	1,109.1
Middle Atlantic	327.9	46.7	192.2	520.8	1,146.7
New York	322.2	47.6	187.1	512.8	1,124.5
New Jersey	332.7	46.3	194.3	519.2	1,183.8
Pennsylvania	332.9	45.6	198.1	532.5	1,155.7
East North Central	326.8	42.3	192.8	534.5	1,126.6
Ohio	339.1	43.4	197.8	554.6	1,175.7
Indiana	328.7	38.2	185.8	549.9	1,145.2
Illinois	336.8	46.0	205.5	541.7	1,152.3
Michigan	319.4	42.6	188.2	518.4	1,104.2
Wisconsin	287.4	34.8	165.9	481.2	987.8
West North Central	292.0	38.7	169.0	471.2	1,022.1
Minnesota	265.3	32.4	150.7	417.6	961.3
Iowa	287.8	40.5	150.3	474.5	1,023.5
Missouri	332.4	47.3	199.9	539.1	1,131.4
North Dakota	255.4	†	145.4	419.1	870.0
South Dakota	250.5	†	131.3	386.1	933.2
Nebraska	287.1	†	181.6	461.4	992.3
Kansas	280.1	35.0	165.1	457.1	971.3
South Atlantic	336.9	49.2	208.6	565.7	1,097.0
Delaware	350.0	†	199.0	563.7	1,237.1
Maryland	362.7	45.0	207.3	591.4	1,274.7
District of Columbia	514.7	†	377.0	855.5	1,523.2
Virginia	347.2	45.0	208.1	573.6	1,179.2
West Virginia	322.5	50.4	188.0	543.2	1,066.4
North Carolina	336.5	51.2	198.3	572.2	1,102.4
South Carolina	352.6	50.1	219.4	600.6	1,134.9
Georgia	343.7	49.3	204.0	581.5	1,135.7
Florida	315.5	49.8	209.1	521.8	996.6
East South Central	349.4	49.0	223.4	583.2	1,132.4
Kentucky	353.9	47.7	224.1	592.8	1,154.1
Tennessee	346.5	46.3	225.2	582.0	1,114.4
Alabama	352.1	52.6	225.8	578.5	1,145.0
Mississippi	344.2	50.8	214.5	578.6	1,114.7
West South Central	320.1	46.6	193.3	524.8	1,075.7
Arkansas	330.1	55.6	207.4	564.1	1,029.7
Louisiana	366.5	56.0	235.4	600.4	1,190.0
Oklahoma	317.7	49.7	180.8	527.9	1,072.6
Texas	305.9	42.0	181.9	494.7	1,053.4
Mountain	253.7	32.1	138.4	412.5	907.9
Montana	266.1	†	151.5	427.5	958.5
Idaho	242.4	†	116.0	382.2	915.2
Wyoming	244.0	†	†	415.9	869.4
Colorado	246.3	32.6	124.2	404.1	895.9
New Mexico	242.9	†	132.8	375.6	899.1
Arizona	269.8	34.9	158.4	454.1	910.9
Utah	204.9	†	108.7	312.7	773.9
Nevada	308.2	†	183.8	494.7	1,083.3
Pacific	288.7	38.0	164.8	463.4	1,021.4
Washington	280.8	37.5	152.1	457.6	1,000.3
Oregon	288.8	37.9	171.0	456.0	1,019.4
California	292.0	38.3	166.7	467.9	1,034.9
Alaska	284.3	†	†	460.3	1,114.2
Hawaii	246.7	†	176.0	399.6	777.3

*Adjusted on basis of age distribution of the United States total population, 1940.

†Fewer than 100 deaths; rate not computed.

Source of basic data: Mortality from Division of Vital Statistics, National Center for Health Statistics.
Rates computed in the Health and Safety Education Division of the Metropolitan Life Insurance Company.

Table 2—Mortality From Malignant Neoplasms Among Women United States, 1979-81

Area	Death Rate per 100,000				
	Ages 35-74*	Ages 35-44	Ages 45-54	Ages 55-64	Ages 65-74
United States	221.1	52.6	117.0	359.3	598.5
New England	233.7	52.3	175.1	383.6	649.1
Maine	231.4	55.8	166.0	381.6	646.2
New Hampshire	235.6	†	166.7	404.9	639.5
Vermont	225.8	†	172.1	367.6	616.2
Massachusetts	235.6	52.0	179.4	385.3	652.2
Rhode Island	231.9	†	175.3	368.4	638.4
Connecticut	232.4	48.5	173.1	382.8	655.7
Middle Atlantic	239.2	55.0	184.2	384.6	661.4
New York	241.7	56.7	184.7	391.2	664.7
New Jersey	243.1	52.4	190.4	388.4	679.0
Pennsylvania	233.3	54.1	179.5	373.6	646.9
East North Central	229.4	53.6	177.5	369.6	628.6
Ohio	239.1	58.1	185.1	386.0	647.1
Indiana	227.6	54.7	174.8	371.6	614.3
Illinois	230.9	53.3	179.0	371.6	634.4
Michigan	226.8	52.5	175.8	363.0	626.1
Wisconsin	209.7	44.4	161.6	335.1	593.7
West North Central	204.9	49.7	158.2	329.2	559.0
Minnesota	196.0	42.9	148.4	316.4	552.3
Iowa	201.3	49.8	146.3	333.6	551.2
Missouri	220.4	55.2	177.1	351.1	583.0
North Dakota	193.5	†	127.6	297.3	594.6
South Dakota	199.0	†	165.8	309.4	503.5
Nebraska	204.6	45.9	173.9	311.5	558.5
Kansas	194.9	49.7	142.8	319.9	532.1
South Atlantic	214.8	53.8	171.0	354.5	552.8
Delaware	264.6	†	200.6	433.9	695.7
Maryland	251.4	59.2	193.3	413.4	676.8
District of Columbia	288.0	†	249.5	446.0	744.0
Virginia	221.7	52.6	171.4	359.8	601.3
West Virginia	194.9	51.8	170.4	362.3	388.7
North Carolina	198.2	53.4	155.2	326.2	507.0
South Carolina	205.0	52.7	158.0	341.5	530.8
Georgia	201.5	51.4	160.5	333.1	514.9
Florida	214.2	51.8	173.2	346.8	561.3
East South Central	211.3	57.9	169.7	338.8	541.9
Kentucky	227.7	59.9	188.0	362.9	582.3
Tennessee	207.5	55.8	165.0	340.6	526.6
Alabama	208.8	60.4	167.8	330.5	533.1
Mississippi	198.5	54.7	155.1	313.2	527.6
West South Central	204.3	50.9	160.9	330.6	541.2
Arkansas	196.5	50.9	151.5	317.6	523.6
Louisiana	222.7	58.4	172.3	357.5	594.3
Oklahoma	201.5	47.2	156.1	329.7	543.4
Texas	200.7	49.5	160.0	325.2	528.3
Mountain	191.8	42.7	141.7	317.8	533.7
Montana	210.7	†	152.5	350.5	588.3
Idaho	175.3	†	121.4	292.7	507.3
Wyoming	196.9	†	†	352.6	504.7
Colorado	185.9	38.5	141.9	303.1	522.2
New Mexico	188.5	50.1	135.4	295.4	538.1
Arizona	199.5	46.4	147.5	336.3	539.2
Utah	166.1	†	115.1	266.2	485.4
Nevada	222.7	†	170.2	378.0	603.5
Pacific	224.6	51.1	167.5	365.1	629.8
Washington	219.2	48.6	159.4	359.1	623.6
Oregon	211.2	46.0	158.2	351.2	582.8
California	229.2	52.3	171.8	372.1	640.8
Alaska	202.0	†	†	†	†
Hawaii	171.8	†	129.1	269.4	465.2

*Adjusted on basis of age distribution of the United States total population, 1940.

†Fewer than 100 deaths, rate not computed.

Source of basic data: Mortality figures from Division of Vital Statistics, National Center for Health Statistics.
Rates computed in the Health and Safety Education Division of the Metropolitan Life Insurance Company.

35-74 was from 10 to 20 percent higher than the average in three states, New Jersey, Maryland and Delaware. The majority of the states (around 60 percent) reported female cancer mortality between 200 and 240 per 100,000. Fifteen states recorded cancer death rates for these women below 200 per 100,000.

Variation by Age

Cancer mortality rates tend to increase with age, sharply rising after midlife. The 1979-81 increase in cancer deaths by age was slightly more pronounced among males than females. Among males, cancer death rates more than quadrupled between ages 35-44 and 45-54 and more than doubled in the next two 10-year age groupings. Female mortality rates more than tripled between ages 35-44 and 45-54, more than doubled between ages 45-54 and 55-64, and rose by about two-thirds in the oldest age group. While the regions registering the high rates varied by age and sex, the Mountain region recorded the *lowest* cancer mortality rates across all age groups for both sexes.

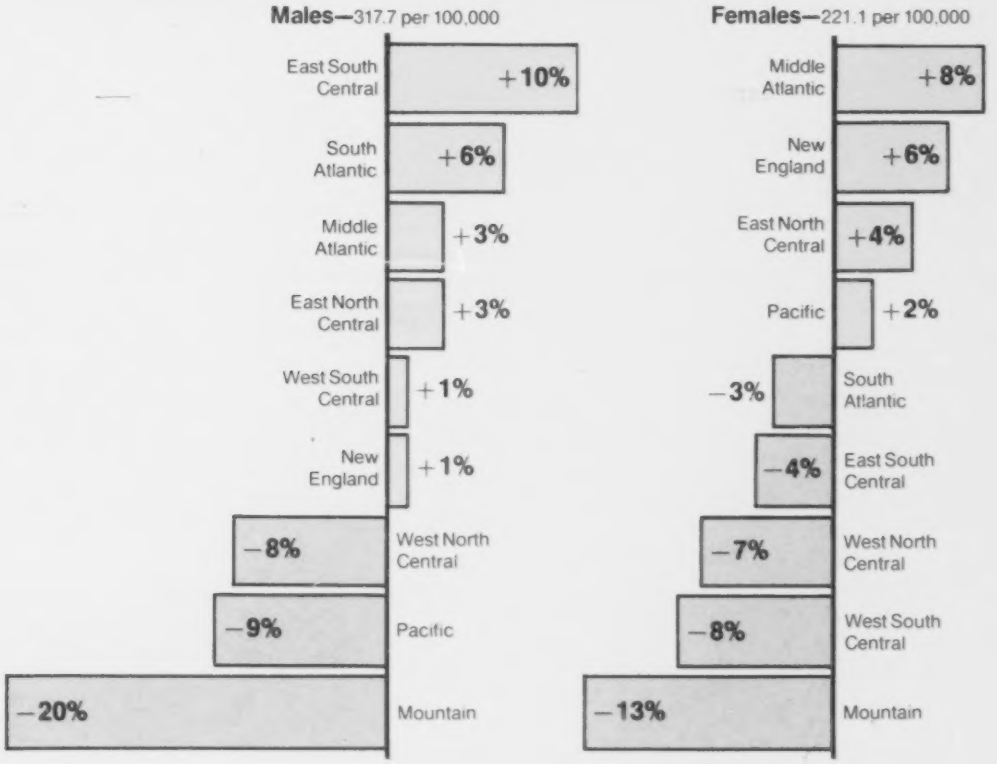
Cancer death rates were higher among women 35-44 than men of this age in every state, with the exception of Arkansas and Oklahoma. Between ages 45-54, however, women's rates were higher than men's in only the Mountain and Pacific regions. Male death rates were higher than those for females in all nine regions among persons 55-64 and 65-74. Cancer mortality rates were 44 percent higher among males than females aged 55-64 and 82 percent higher among males 65-74.

For women 35-44, the highest cancer mortality was registered in the East South Central region—58 per 100,000 or 10 percent above the total for this age group. Among the states with more than 100 deaths, Alabama had the highest female death rate, above 60 per 100,000. The lowest mortality among women in this age group—43 per 100,000 population—was registered in the Mountain region. Among males 35-44, the highest mortality (49 deaths per 100,000) was found in the South Atlantic and East South Central states. The South Atlantic rate was primarily due to the high mortality registered in the District of Columbia (data not shown), where the rate was almost twice that for the entire country. By state, Louisiana and Arkansas registered the second and third highest cancer mortality rates for males at these ages, with rates 56 per 100,000 population. The lowest rates among males 35-44 during this period were found in the Pacific and Mountain regions, with rates 13 and 26 percent below the national total.

The region with the highest death rate among males 45-54 was the East South Central (223 per 100,000) and the region with the lowest male death rate was again the Mountain region (138 per 100,000). Within regions, the rate reported for the District of Columbia was the highest—double that for males in this age group. The second highest mortality for males in this age group was recorded in Louisiana—235 deaths per 100,000. The lowest mortality rate from cancer among these males was found in Utah—109 per 100,000—followed by Idaho and Colorado with rates of below 125 per 100,000. The Middle Atlantic states reported the highest mortality rates among females 45-54, 184 per 100,000, followed by the East North Central and New England regions, each with rates above the U.S. total. The Mountain states reported the lowest rates for these women, 17 percent below the average. Individually, the District of Columbia and Delaware reported the highest mortality, 250 and 201 per 100,000, respectively.

The cancer death rate among males aged 55-64 was 44 percent higher than that among their female counterparts. The highest male mortality was recorded in the East South Central and South Atlantic regions, with rates 13 and 9 percent above the national average. The District of Columbia again recorded the highest individual mortality, almost two-thirds higher than the total for males in this age group. South Carolina and Louisiana followed the District, each recording rates in excess of 600 per 100,000. The Mountain region recorded the lowest mortality rate for this group—a rate approximately 20 percent below the national total. The states with the lowest mortality rates were Utah, New Mexico, Idaho, South Dakota and Hawaii with rates below 400 per 100,000 population. Among

Percent Difference in Cancer Mortality Rates by Geographic Division, United States, 1979-81



Source: Tables 1 and 2

females 55-64, the highest rates—over 360 per 100,000—occurred in the Middle Atlantic, New England, East North Central and Pacific regions of the country. Rates above 400 per 100,000 population were reached in the District of Columbia, Delaware, Maryland and New Hampshire. The lowest rates were recorded in Utah and Hawaii.

In the 65-74 age group, male cancer mortality rates were more than four-fifths higher than those registered for females. The highest mortality rate for males in this age group was reported in the Middle Atlantic region—1,147 per 100,000 population. The New England, East South Central, East North Central and South Atlantic areas registered rates above the average. The District of Columbia reported the highest death rate, 1,523 per 100,000, a rate approximately 40 percent higher than the national total for males in this age group. In Maryland and Delaware, the male rates exceeded 1,230 per 100,000. The lowest mortality was reported in the Mountain region with a rate close to 17 percent below the total. Utah and Hawaii reported the lowest rates, each below 780 per 100,000.

Among women in the 65-74 age group, four regions registered cancer mortality rates above the national total. The Middle Atlantic, New England, Pacific and East North Central regions each reported rates between 629 and 661 per 100,000 population. Death rates were the highest in the District of Columbia and Delaware. The lowest death rates among women in this age group were found in the Mountain region (534 deaths per 100,000) followed closely by the West South Central and East South Central regions, with mortality rates of 541 and 542, respectively. In West Virginia and Hawaii the female cancer mortality was at least 20 percent below the national total.

These geographic variations in cancer mortality not only reflect the demographics of the country's regions, but also underscore the role played by environmental and life-style factors inherent in the regions that contribute to cancer risk. Rates tend to be higher in urban/industrial areas and in areas where tobacco and alcohol use tend to be prevalent. The differences in the rates between the sexes have been lessening over the years primarily because of the dramatic increases in female respiratory cancer mortality.[2,3] As more Americans become aware of cancer risks associated with certain life-styles, and are more actively involved in health maintenance and preventive medicine, the sooner cancer mortality rates in the different regions of the country will probably start to converge at lower levels. □

1 American Cancer Society. *1985 Cancer Facts and Figures*. New York, NY: American Cancer Society, 1985.

2 "Mortality trends in lung and breast cancer in women." *Statistical Bulletin*, 4-6, Jul-Sep, 1985.

3 Doll, R., Peto, R. *The Causes of Cancer*. Oxford, New York, Oxford University Press, 1981.

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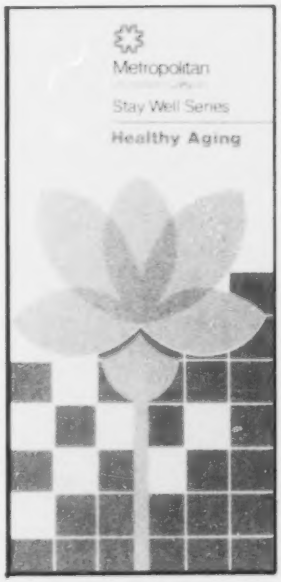
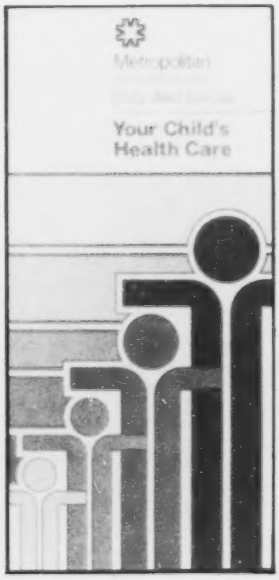
A film about children and how teachers and parents —and all concerned adults— can help to keep them healthy

You Can See Tomorrow Brochure describes this film about school age children and how parents and teachers all concerned adults can help to keep them healthy



Healthy Aging Ways to stay well in later years Tips on nutrition exercise rest safety medical checkups Suggests some community resources 6 panel leaflet



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Costs of Cholecystectomies by Geographic Areas

Chances of Celebrating a Golden Wedding Anniversary

Regional Variations in Mortality From Suicide

Upcoming Event

The 15th International Congress of Life Assurance Medicine will be held

October 12-16, 1986
The Hotel New Otani
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Secretariat of 15th ICLAM
c/o The Life Insurance Association of Japan
Shinkokusai Building
4-1, Marunouchi 3-chome
Chiyoda-ku, Tokyo 100, Japan

Historical Perspectives

35 YEARS AGO

IN THE 1951 STATISTICAL BULLETIN

At the time of the 1950 census, there were about 15,000,000 American youths aged 14-20 or about one-tenth of the U.S. population. Metropolitan statisticians presented a demographic profile of this segment of the population and disclosed that the proportion of young people enrolled in school fell sharply with maturity. Whereas 84 percent of those aged 14-17 were enrolled, only 29 percent were still in school at ages 18-20 years. (Currently 95 percent of youngsters 14-17 are enrolled in school—ed.) Early age at marriage was evident, particularly for girls—almost 6 percent were married at ages 14-17, and by 18-20 almost 35 percent were married. (In 1984, 2 percent of girls under age 18, and 12 percent of those aged 18-19 were married—ed.) However, the proportion was much lower for young men. It was noted that at age 20, life expectancy was over 50 years. (Life expectancy for a 20-year-old is now 56 years—ed.) (Page 5, May)

Considerable gains had been achieved in U.S. total population life expectancy. Between 1900 and 1948 it had increased by 19 years, mainly because of reduced mortality from the infectious diseases. Future increased longevity would depend on reductions in other causes of death such as cardiovascular-renal diseases, cancer and accidents. The greatest anticipated gain would result from the elimination of cardiovascular-renal diseases—almost 10 years for white men and 9 years for white women. Cancer ranked second, but its control would have added only 1.8 years to the life expectancy of white men and 2.5 years to white women. Years of life saved from any specific causes would depend on the magnitude of the death rate and the average age of death. Accordingly, the eradication of fatal accidents would add 1.8 years for white men and only 0.8 years for white women, reflecting the sex ratio as well as youthful age of accident victims. Researchers and public health administrators were urged to devote more attention to the understanding and control of the chronic diseases, since the greatest opportunity for future gains in life expectancy would depend upon this. (Page 8, March)

Metropolitan statisticians compiled a demographic profile of the American senior citizen population. The number of persons 65 and over had increased by 37 percent during the decade of the 1940s and totaled 12,300,000 by 1950. Although all senior citizens shared certain common experiences, the social and personal problems of elderly women were generally different from those of men in their later years. Among men, two-thirds were still married and less than a quarter were widowers. Among women, however, only 36 percent were married and more than half were widowed. Marked differences also existed in the matter of employment. While over 40 percent of men were employed, the figure was barely 8 percent for women. (Between 1950 and 1984 persons 65 and older in the United States have increased by more than 125 percent and now constitute one-ninth of the total population—ed.) (Page 5, July)

President Truman met with 2,000 delegates from throughout the United States at the President's Highway Safety Conference. He characterized the daily slaughter on the U.S. highways as "unnecessary and inexcusable." In 1950, alone, 35,000 persons died, 1,225,000 were injured and there was an accompanying money loss of about $3 billion. The conferees felt that safety regulations would be ineffective without responsible safety attitudes of pedestrians and drivers. Metropolitan's study revealed that among the company's insured, the death rate from motor vehicle accidents was 15.4 per 100,000 in 1950—an increase of 13 percent over the rate in 1949. Among white male policyholders aged 20-24, the rate was nearly three times that for all ages combined. The Pacific Coast had an especially high motor vehicle accident toll. (Currently, there are over 46,000 motor vehicle fatalities annually—ed.) (Page 10, June)

In the United States, the 1940s had a dramatic upswing in marriages and birth rates, and reduced levels of widowed, divorced or separated persons. Metropolitan statisticians estimated strengthening of family ties occurred, resulting in 1,800,000 fewer marital disruptions in 1950 than if the pre-1950 conditions had prevailed. There was also a decline in the number of separated persons since, with the return of prosperity in the 1940s, they legally dissolved their marriages. Divorced people responded to the favorable conditions for remarriage. Regardless of the disruptive forces in society there seemed a strong desire for family stability—home and children. (Page 1, March)